

ART. IV. *HYLA ROSENBERGI* BOULENGER, AN ADDITION  
TO THE FAUNA OF THE PANAMÁ CANAL ZONE

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During the summer of 1933, Mr. Arthur M. Greenhall made a small collection of amphibians and reptiles in the Panamá Canal Zone, and in the Republic of Panamá. A portion of this collection was acquired by the Museum of Zoology of the University of Michigan and later the Carnegie Museum purchased a part of the remaining collection. Among other rarities secured by Mr. Greenhall were three specimens of *Hyla rosenbergi* Boulenger, collected at Alhajuela (about 10 miles up the Chágres River from Gamboa, and just below Madden Dam), Canal Zone. One of these specimens is now in the collection of the Museum of Zoology, and two, collected Sept. 3, 1933, are in the Carnegie Museum collection (C. M. nos. 7418, 7419). Even though these specimens extend the known range of the species only about forty miles from the Rio Bayano, where Meek and Hildebrand secured a specimen, they are the first specimens recorded from the Panamá Canal Zone, and they appear to be, furthermore, the only specimens ever taken in the Atlantic drainage.

It is impossible to hazard a guess as to the factors which limit the distribution of this species. The present specimens from the Rio Chágres complete the record of its occurrence in each of the three large river basins of eastern Panamá, but it has not yet been recorded from the Atrato basin of Colombia which is ichthyologically more similar to the Rio Tuyra and the Rio Bayano systems than either of them is to the Rio Chágres. The kind of substratum requisite for its basin building may be the limiting factor, but if this is the case it seems strange that its known distribution so closely parallels that of the fish, *Hoplias microlepis* (Günther)<sup>1</sup> which is found on the Pacific slope of Ecuador, and on both slopes of central Panamá, but not on the Pacific slope in the intervening area.

The Carnegie Museum specimens are not in perfect agreement with

<sup>1</sup>Field Mus. Nat. Hist., Zool. ser., Vol. X, 1916, p. 305; Mem. Carn. Mus., Vol. IX, 1922, p. 169.

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Boulenger's<sup>2</sup> description and figure. The difference in vomerine teeth noted by Schmidt<sup>3</sup> is again apparent. Also, the webbing of the fingers is not so extensive, and the warts of the dorsal surface are certainly less pearl-like than those of the figured specimen. In view of these differences, and in view of the puzzling problem of distribution, I now propose to examine the available specimens of this species. It is probable that a careful comparison of Ecuadorean and Panamanian specimens will indicate some constant differences for it is likely that the two populations have been separated for a long period of time.

<sup>2</sup>Proc. Zool. Soc. London, 1898, pp. 123-124, pl. XVI.

<sup>3</sup>Smithsonian Misc. Coll., Vol. 89, 1933, p. 6.